



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

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Molly Joseph Ward  
Secretary of Natural Resources

David K. Paylor  
Director

(804) 698-4020  
1-800-592-5482

December 3, 2015

Henrico County  
Department of Public Utilities  
Attn: Art Petrini  
P.O. Box 90775  
Henrico, Virginia 23273

**SENT VIA E-MAIL  
RECEIPT CONFIRMATION REQUESTED**

Re: Virginia Water Protection (VWP) Individual Permit Number 05-0852  
Cobbs Creek Reservoir, Cumberland County, Virginia  
Approval of Request for Minor Modification

Dear Mr. Petrini:

The Virginia Department of Environmental Quality (DEQ) has received your request to modify VWP Individual Permit No. 05-0852 issued on October 10, 2007.

In the emails dated June 1, 2015 and June 21, 2015, ARCADIS U.S. Inc. requested the modification of authorized impacts to reduce stream channel impacts by 171 linear feet and correct the approval date of the Woody Plant Preservation Plan. Reducing stream channel impacts results in a 171 linear foot mitigation credits surplus that may be applied to future stream channel impacts associated with this project at a 1:1 ratio. Additionally, a revision was made change the methodology used to estimate the flow rates at Cartersville.

Permit condition Part I.F.4 requires Henrico County to use a combination of four gages to estimate the flows at Cartersville. However, the currently approved Low Flow Augmentation Schedule (October 21, 2011) uses only the USGS gage at Cartersville (02035000) to estimate flows. DEQ recommends that you submit a revised Low Flow Augmentation Schedule that uses the combination of gages to estimate flow at Cartersville as reflected in the permit condition Part I.F.4. The timing of any modification to your Low Flow Augmentation Schedule is at your discretion. No new application is necessary as this constitutes a ministerial change as part of an administrative process.

In accordance with your request and pursuant to the VWP Permit Program Regulation 9 VAC 25-210-180 and § 401 of the Clean Water Act Amendments of 1977, Public Law 95-217, DEQ approves your request to modify the above referenced permit. DEQ has determined that this request qualifies for a Minor Modification in accordance with VWP Permit Program Regulation 9 VAC 25-210-180(F)(8). The Permit cover page, Special Condition Part I.A, Part I.A.1, Part I.A.1.e, and Part I.C.2, and Part 1.F have been modified to reflect the Minor Modification.

Please note that this letter is an official component of the permit and should be retained in your files. If you have any questions, please contact Anthony Cario at 804-698-6089 or [anthony.cario@deq.virginia.gov](mailto:anthony.cario@deq.virginia.gov).

Respectfully,



Scott W. Kudlas  
Director, Office of Water Supply

Enclosures: Revised Permit Cover Page, Revised Part I – Special Conditions, Part II – General Conditions

cc: Paul Peterson, ARCADIS – VIA EMAIL  
Julie Hamilton, U.S. Army Corps of Engineers, Richmond Field Office – VIA EMAIL  
Bill Overmann, Henrico County – VIA EMAIL

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# *COMMONWEALTH of VIRGINIA*

## *DEPARTMENT OF ENVIRONMENTAL QUALITY*

VWP Individual Permit Number 05-0852

Effective Date: October 10, 2007

Minor Modification No. 1 Date: October 1, 2008

Minor Modification No. 2 Date: September 14, 2010

Major Modification No. 1 Date: November 27, 2012

Minor Modification No. 3: August 1, 2013

Minor Modification No. 4: March 7, 2014

Minor Modification No. 5: December 3, 2015

Expiration Date: October 9, 2022

### **VIRGINIA WATER PROTECTION PERMIT ISSUED PURSUANT TO THE STATE WATER CONTROL LAW AND SECTION 401 OF THE CLEAN WATER ACT**

Based upon an examination of the information submitted by the owner, and in compliance with § 401 of the Clean Water Act as amended (33 USC 1341) and the State Water Control Law and regulations adopted pursuant thereto, the State Water Control Board (board) has determined that there is a reasonable assurance that the activity authorized by this permit, if conducted in accordance with the conditions set forth herein, will protect instream beneficial uses and will not violate applicable water quality standards. The board finds that the effect of the impact, together with other existing or proposed impacts to surface waters, will not cause or contribute to a significant impairment to state waters or fish and wildlife resources.

**Permittee:** Henrico County

**Address:** P. O. Box 90775, Henrico, Virginia 23273-0775

**Activity Location:** Reservoir on Cobbs Creek, northwest of Columbia Road - SR 690, and intake on the James River, about 1.7 miles upstream of the Columbia Bridge, in Cumberland County, VA.

#### **Activity Description:**

The construction of the Cobbs Creek and West Saddle Dams and associated structures; filling of Cobbs Creek Reservoir to a normal pool elevation of 345 feet above mean sea level; stabilizing reservoir banks; installing underground utility lines and a James River intake; relocating existing underground utility lines; and providing compensatory mitigation that will permanently impact 80,792 linear feet of stream, 30.99 acres of wetlands, and 4.60 acres of open water, and that will temporarily impact 1,924 linear feet of tributary stream, 0.17 of an acre of wetlands, and 25,000 square feet of streambed in the James River. Compensatory mitigation includes the construction of an off-site wetland compensation site; preservation, enhancement, or restoration of stream buffer; preservation and restoration of streambed; purchase of mitigation bank credits; or payment to an in-lieu fee fund.

The permitted activity shall be in accordance with this Permit Cover Page, Part I - Special Conditions, and Part II - General Conditions.



Director, Office of Water Supply

12/3/15

Date

**A. *Authorized Activities***

This permit authorizes the following impacts, as described in: the Joint Permit Application dated April 13, 2005, received by DEQ on April 13, 2005, and deemed complete by DEQ on August 18, 2006; the Environmental Site Assessment and Addendum (April 2006 and July 2006, respectively); various project correspondence dated 2001 to 2007; Cumberland County's request dated August 12, 2010 to transfer this permit to Henrico County; and various project correspondence dated April 2011 through June 2012, July 2013, February 2014, June 2015 through November 2015 in support of permit modification requests.

1. The permanent impacts to 80,792 linear feet of stream, 30.99 acres of wetlands, and 4.60 acres of open water as follows for: constructing the reservoir dams and associated structures; filling of Cobbs Creek Reservoir to a normal pool elevation of 345 feet above mean sea level; stabilizing reservoir banks; installing underground utility lines and a James River intake; relocating existing underground utility lines; and providing compensatory mitigation:
  - a. inundation of 19.40 acres of nontidal, palustrine forest wetlands; 6.25 acres of nontidal, palustrine scrub-shrub wetlands; and 4.26 acres of nontidal, palustrine emergent wetlands.
  - b. inundation of 78,644 linear feet of stream.
  - c. inundation of 4.6 acres of man-made open water or beaver ponds.
  - d. fill or excavation of 0.44 of an acre of nontidal, palustrine forest wetlands.
  - e. fill or excavation of 2,148 linear feet of stream, 100 feet of which are located at the Swift Island Compensation Site.
  - f. conversion of 0.61 of an acre of nontidal, palustrine forest wetlands by fill or excavation.
  - g. conversion of 0.03 of an acre of nontidal, palustrine scrub-shrub wetlands by fill or excavation.
2. The temporary impacts to streams and wetlands as follows for: installing underground utility lines; relocating existing underground utility lines; stabilizing reservoir banks; constructing a temporary coffer dam; and installing a James River intake:
  - a. fill or excavation of 1,924 linear feet of tributary streams.
  - b. fill or excavation of 0.02 of an acre of nontidal, palustrine scrub-shrub wetlands.
  - c. fill or excavation of 0.15 of an acre of nontidal, palustrine emergent wetlands.

- d. excavation of 25,000 square feet of streambed in the James River.
3. The temporary use of mechanical equipment in surface waters when conducted according to the permit conditions.
4. The relocation to a new utility corridor or replacement of existing overhead utility lines within the same existing utility corridor, including removal of vegetation and disturbance of the ground surface to the minimum extent necessary for new or expanded borings.
5. The withdrawal of surface water from the James River in accordance with the conditions in Part I.F of this permit.
6. Surface water impacts resulting from compensation site construction activities. The permittee shall include a detailed summary of the temporary and permanent impacts, including but not limited to, the type and amount of impacts, and shall provide proposed compensation for the permanent impacts in the final compensation plan to be approved by DEQ and the Board.

**B. *Permit Term***

1. This permit is valid for 15 years from the date of issuance. A new permit may be necessary for the continuation of the authorized activities. At least 180 calendar days prior to the expiration date of this permit, the permittee shall notify DEQ in writing of his or her intent to continue one or more of the authorized activities. A new permit application may be required by DEQ at that time. DEQ, acting on behalf of the State Water Control Board (Board), may issue a new permit; may issue a new permit with new or modified conditions; or may deny the application.
2. DEQ, on behalf of the Board may reopen and modify this permit if after issuance the project operations are determined to have adverse impacts on surface waters or beneficial uses. The permittee may request modification of this permit under the provisions of the Virginia Water Protection Permit Regulation. Any modification shall not extend the permit term beyond 15 years.

**C. *Standard Project Conditions***

1. The activities authorized by this permit shall be executed in such a manner that any impacts to stream beneficial uses are minimized. As defined in § 62.1-10(b) of the Code, “beneficial use” means both instream and offstream uses. Instream beneficial uses include, but are not limited to, the protection of fish and wildlife habitat, maintenance of waste assimilation, recreation, navigation, and cultural and aesthetic values. Offstream beneficial uses include, but are not limited to, domestic (including public water supply), agricultural, electric power generation, commercial, and industrial uses. Public water supply uses for human consumption shall be considered the highest priority.

2. No activity shall substantially disrupt the movement of aquatic life indigenous to the water body, including those species that normally migrate through the area, unless the primary purpose of the activity is to impound water.
3. At crossings of streams, pipes and culverts less than 24 inches in diameter shall be countersunk a minimum of three inches, and pipes and culverts greater than 24 inches in diameter shall be countersunk a minimum of six inches to provide for the re-establishment of a natural stream bottom and to maintain a low flow channel. For multiple-celled culverts, only the bottoms of those cells situated below the limits of ordinary high water shall be countersunk. To the greatest extent practicable, other cells, pipes, or culverts shall be elevated to provide a natural distribution of flood flows. The requirement to countersink shall not apply to extensions or maintenance of existing culverts that are not countersunk, to floodplain culverts being placed above ordinary high water, to culverts being placed on bedrock, or to culverts required to be placed on slopes 5% or greater.
4. Flows downstream of the project area shall be maintained to protect all uses.
5. Excepting the construction of the dam, no activity shall cause more than minimal adverse effect on navigation, and no activity shall block more than half of the width of the stream at any given time.
6. The activity shall not impede the passage of normal or expected high flows, and any associated structure shall withstand expected high flows.
7. Temporary in-stream construction features such as cofferdams shall be made of non-erodible materials.
8. No instream work on the James River shall occur from April 15 through June 15 and August 15 through September 30 of any year. Instream work does not include work that is performed *behind* a cofferdam.
9. All excavation, dredging, or filling in surface waters shall be accomplished in a manner that minimizes bottom disturbance and turbidity. Turbidity levels downstream of any in-stream construction sites shall be minimized to the greatest extent practicable at all times.
10. Erosion and sedimentation controls shall be designed in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction. These controls shall be placed prior to clearing and grading activities and shall be maintained in good working order, to minimize impacts to surface waters. These controls shall remain in place only until clearing and grading activities cease and these areas have been stabilized.
11. All construction, construction access, and demolition activities associated with this project shall be accomplished in a manner that minimizes construction materials or waste materials from entering surface waters. Wet, excess, or waste concrete shall be

prohibited from entering surface waters. Measures shall be employed at all times to prevent and contain spills of fuels, lubricants, or other pollutants into surface waters. Any fish kills, or spills of fuels or oils, shall be reported to DEQ immediately upon discovery at (434) 582-5120. If DEQ cannot be reached, the spill shall be reported to the Virginia Department of Emergency Management (DEM) at 1-800-468-8892 or the National Response Center (NRC) at 1-800-424-8802. DEQ shall be notified in writing *within 24 hours or as soon as possible on the next business day* when potential environmentally threatening conditions are encountered which require debris removal or involve potentially toxic substances. Measures to remove the debris or potentially toxic substance, or to change the location of any structure, are prohibited until approved by DEQ. Virginia Water Quality Standards shall not be violated in any surface waters as a result of the project activities.

12. All authorized fill material placed in surface waters shall be clean and free of contaminants in toxic concentrations or amounts in accordance with all applicable laws and regulations.
13. All non-impacted wetlands, streams, open water, and designated buffers that are located within fifty feet of any project activities, including but not limited to overhead utility relocation or replacement, shall be clearly marked or flagged for the life of the construction activity within that area. *The permittee shall notify all contractors and subcontractors that no activities are to occur in these marked areas.*
14. Machinery or heavy equipment used in temporarily impacted wetlands shall be placed on mats or geotextile fabric, or other suitable means shall be implemented, to minimize soil disturbance to the maximum extent practical. Mats, fabrics, or other measures shall be removed as soon as the work is complete in the temporarily impacted wetland.
15. Temporary disturbances to wetlands, stream channels, and/or stream banks during project construction activities shall be avoided and minimized to the maximum extent practicable.
16. All materials (including fill, construction debris, excavated materials, and woody materials) that are temporarily placed in wetlands, in stream channels, or on stream banks shall be placed on mats or geotextile fabric, and shall be immediately stabilized to prevent the materials, or leachate associated with the materials, from entering surface waters. The materials shall be entirely removed within 30 calendar days following completion of that construction activity. After removal, disturbed areas shall be restored to pre-existing conditions (except for mature woody vegetation) in accordance with Part I.H.

17. Unless otherwise directed in this permit, required notifications and submittals shall be submitted to the attention of the VWP permit manager at:

Virginia Dept. of Environmental Quality  
Office of Water Supply  
P. O. Box 1105  
Richmond, Virginia 23218

18. All reports required by this permit and other information requested by DEQ shall be signed by the permittee or a person acting in the permittee's behalf, with the authority to bind the permittee. A person is a duly authorized representative only if *both* criteria below are met. If a representative authorization is no longer valid because of a change in responsibility for the overall operation of the facility, a new authorization shall be immediately submitted to DEQ.

- a. The authorization is made in writing by the permittee.
- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, or position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position.

19. All submittals shall contain the following signed certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

20. The permittee shall notify the DEQ of any additional impacts to surface waters, including wetlands; of any modifications of the intake structure; and of any change to the type of surface water impacts associated with this project. Any additional impacts, modifications, or changes shall be subject to individual permit review and/or modification of this permit. Compensation may be required.
21. The permittee shall leave stumps and standing timber on the land within the reservoir pool for fish habitat in accordance with the Woody Structure Preservation Plan dated October 28, 2011 and approved by DEQ on November 10, 2011, with a revision approved May 13, 2015, or the most recent DEQ approved version. The permittee shall only be responsible for clearing operations on lands owned by the permittee, or on lands under option for purchase by the permittee.

22. The permittee shall establish a buffer of at least 150 feet around the perimeter of the reservoir, measured landward from the normal pool elevation of 345 feet above mean sea level, unless otherwise approved in writing by DEQ, for the purposes of water quality protection and controlling and abating the discharge of pollutants. For the purpose of this permit condition, the buffer does not include the Cobbs Creek Dam or the West Saddle Dam.

The following activities shall be prohibited, when conducted outside of a designated public use area but within the reservoir buffer, except where authorized by this permit for the construction of the water supply project:

- a. Construction of new buildings, structures, fences, roads, or utilities, except as follows:
  - i. maintenance or reconstruction of existing buildings, structures, fences, roads, or utilities damaged by natural events, provided the original dimensions and location are maintained, unless otherwise required by Virginia law or regulation;
  - ii. expansion or relocation of existing septic or drinking water systems when required by Virginia Department of Health law or regulation; or
  - iii. facilities supporting the water supply project, as authorized by this permit.
- b. Industrial or commercial activities, except those conducted within existing authorized buildings and structures where no material alteration to the external appearance occurs, and where no discharge of materials occurs.
- c. Storage of compost, manure, fertilizers, chemicals, machinery or equipment, except within existing authorized buildings and structures.
- d. Removal, burning or pruning of timber and vegetation, except as follows:
  - i. project-related activities for which a restoration plan is submitted consistent with the DEQ approved Buffer Management Plan;
  - ii. human health and safety purposes;
  - iii. fire, pest, or invasive species control measures, or
  - iv. pruning to provide sight lines and vistas conducted consistent with the DEQ approved Buffer Management Plan.
- e. Plowing, cultivation, landscaping, and mowing, except mowing of areas that have historically been maintained as lawn adjacent to existing buildings and cemeteries.

- f. Grading, blasting, mining, earth-moving, or other earth-disturbing activities, except for upland borrow activities for construction of the water supply project and those activities authorized by this permit.
- g. Damming, impounding, capturing, or diverting flowing water, except as authorized by this permit.
- h. Dumping or depositing waste machinery, equipment, or other waste materials; household refuse; lawn clippings; woody debris; leaves; and fill material, except as authorized by this permit, or as authorized by separate permits.
- i. Permanent billboards, signs, towers, playground equipment, or recreational fields, except those necessary for operation or protection of the water supply project or permitted activities.
- j. Motorized vehicles, except those necessary for the operation, maintenance, or protection of the water supply project or permitted activities.

The permittee may designate public use areas within the reservoir buffer, provided the location of which are approved by DEQ. Any activities conducted therein shall not contravene the protection of water quality under this permit and shall be subject to any applicable state or federal permits.

After allowing for public input, the permittee shall submit a buffer management plan for DEQ approval, which shall be submitted by the permittee prior to activities commencing in surface waters. The plan shall describe what measures will be taken by the permittee to implement the plan, including but not limited to, the prohibited and authorized activities listed in this permit.

**D. *Stream Modifications, Including Intake/Outfall Structures***

- 1. To prevent the impingement and entrainment of fish eggs, larvae, and other aquatic life, the intake screens shall be so designed that screen openings are not larger than one millimeter in width and the screen face intake velocities are not greater than 0.25 feet per second.
- 2. Any exposed slopes or stream banks shall be stabilized immediately upon completion of work in each impact area. Methods and materials for stabilization shall be in accordance with the Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the most recent version in effect at the time of construction.
- 3. Redistribution of existing stream substrate for erosion control purposes is prohibited.
- 4. Material removed from the stream bottom shall not be deposited into surface waters unless otherwise authorized as fill material in this permit.

5. Outlet protection for all outfalls and piped channel sections shall be designed in accordance with Virginia Erosion and Sediment Control Handbook, Third Edition, 1992, or the *most recent version in effect at the time of construction*. Alternative energy dissipation measures may be installed with prior approval by DEQ.
6. For stream bank protection activities, structures and backfill shall be placed as close to the stream bank as practical, while still avoiding and minimizing impacts to vegetated wetlands to the maximum extent practical. No material shall be placed in excess of the minimum necessary for erosion protection.
7. Asphalt and materials containing asphalt or other toxic substances shall not be used in the construction of submerged sills, breakwaters, dams, or weirs.
8. If stream channelization or relocation is required, all work in surface waters shall be done in the dry, unless authorized by this permit, and all flows shall be diverted around the channelization or relocation area until the new channel is stabilized. The diversion shall be accomplished by leaving a plug at the inlet and outlet ends of the new channel during excavation. Once the new channel has been stabilized, flow shall be routed into the new channel by first removing the downstream plug and then the upstream plug. The new stream channel shall be constructed following the typical sections submitted with the application and should incorporate natural stream channel design principles to the greatest extent practicable. A low flow channel shall be constructed within the channelized or relocated area. The centerline of the channel shall meander, to the extent possible, to mimic natural stream morphology. The rerouted stream flow shall be fully established before construction activities in the old streambed can begin.

#### **E. Utilities**

1. All utility line work in surface waters shall be performed in a manner that minimizes disturbance in each area.
2. After utility line relocation or installation, corridors shall be maintained as scrub-shrub or emergent wetlands in those areas where wetland conversion impacts occur. Temporarily disturbed surface waters shall be restored in accordance with the applicable conditions of Part I.H.1 and I.H.2, unless otherwise authorized by this permit.
3. Material resulting from trench excavation may be temporarily sidecast into wetlands not to exceed a total of 90 calendar days, provided the material is not placed in a manner such that it is dispersed by currents or other forces.
4. The trench for a utility line cannot be constructed in a manner that drains wetlands (e.g., backfilling with extensive gravel layers creating a French drain effect).
5. Ground disturbance from the authorized relocation of overhead utilities shall be restored to pre-disturbance conditions, and vegetation shall not be maintained unless otherwise approved by DEQ.

**F. Surface Water Withdrawals**

1. Prior to impacting any surface waters as authorized by this permit, the permittee shall coordinate with applicable local governments to submit any existing regional or local water supply conservation plans that apply to the service areas being supplied by the water withdrawn under this permit.
2. The permittee shall monitor withdrawals from the James River and flow in the James River to confirm that the withdrawals are in compliance with special conditions of this permit.
3. The permittee shall follow the reservoir release provisions approved by DEQ, as detailed in **Section 3 - Schedule** of the Cobbs Creek Reservoir Low Flow Augmentation Release Schedule (October 21, 2011 or most recently approved version), for the purposes of augmenting stream flow in the James River during periods of low flow or drought. In the event that the Governor or the Virginia Drought Coordinator declares a drought emergency that includes the Middle James Drought Evaluation Region, the permittee shall contact DEQ to determine what, if any, adjustments to the releases from the Cobbs Creek Reservoir are necessary. Any necessary revisions to the release provisions of the Cobbs Creek Reservoir Low Flow Augmentation Release Schedule shall be approved by DEQ prior to implementation. The permittee shall be responsible for determining when drought emergencies are declared. DEQ may require documentation that mandatory conservation measures were implemented during declared drought emergencies.
4. The permittee shall estimate flows at Cartersville in units of cubic feet per second (cfs) on a daily basis by monitoring the stream flow gages detailed herein and by applying the equation “Estimated Flows at Cartersville = ( $Q_{SC} + Q_{HD} + Q_{SL} + Q_{RV}$ ) \* 1.12,” where:
  - a.  $Q_{SC}$  is the previous day’s provisional mean daily flow at the U.S. Geologic Survey (USGS) gage No. 02029000 (James River at Scottsville, Virginia);
  - b.  $Q_{HD}$  is the previous day’s provisional mean daily flow at the USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia);
  - c.  $Q_{SL}$  is the previous day’s provisional mean daily flow at the USGS gage No. 02030500 (Slate River near Arvon, Virginia);
  - d.  $Q_{RV}$  is the previous day’s provisional mean daily flow at the USGS gage No. 02034000 (Rivanna River at Palmyra, VA.);
  - e. 1.12 is the adjustment factor for drainage area.
5. Surface water withdrawal from the James River shall not exceed a maximum *daily* withdrawal volume of 150.0 million gallons. Water may be withdrawn from the James River and pumped to the Cobbs Creek Reservoir according to the table below, where Q

equals flow in cubic feet per second (cfs). Estimated Flows at Cartersville (cfs) shall be determined as described in Part I.F.4. If the City of Richmond is modulating their diversion into the Haxall Canal by putting a pulse of water of up to 350 cfs, then the minimum instream flow by conditions of subsection a apply; if the City of Richmond is not modulating their diversion into the Haxall canal with a pulse of water of up to 350 cfs, then the conditions of subsection b apply:

- a. If the City of Richmond *is* modulating flow in Haxall Canal:

***Between July 1 and October 31***

Estimated Flows at Cartersville (cfs)	<u>Maximum Daily Withdrawal (Million Gallons)</u>
$Q < 2407$	0
$2407 < Q \leq 2500$	26
$2500 < Q \leq 2592$	58
$2592 < Q \leq 2778$	90
$2778 < Q \leq 2963$	123
$2963 < Q$	150

***Between November 1 and June 30***

Estimated Flows at Cartersville(cfs)	<u>Maximum Daily Withdrawal (Million Gallons)</u>
$Q < 2407$	0
$2407 < Q \leq 2500$	26
$2500 < Q \leq 2592$	58
$2592 < Q \leq 2778$	90
$2778 < Q \leq 2963$	123
$2963 < Q \leq 3333$	150
$3333 < Q \leq 3704$	150/85*
$3704 < Q$	150

\* 85 mgd if the City of Richmond is diverting a base flow of 350 cfs in Haxall Canal

- b. If the City of Richmond *is not* modulating flow in Haxall Canal:

***Between July 1 and October 31***

Estimated Flows at Cartersville (cfs)	<u>Maximum Daily Withdrawal (Million Gallons)</u>
$Q < 2315$	0
$2315 < Q \leq 2407$	21
$2407 < Q \leq 2500$	53
$2500 < Q \leq 2593$	85
$2593 < Q \leq 2778$	118
$2778 < Q$	150

***Between November 1 and June 30***

Estimated Flows at Cartersville (cfs)	<u>Maximum Daily Withdrawal (Million Gallons)</u>
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$Q < 2315$	0
$2315 < Q \leq 2407$	21
$2407 < Q \leq 2500$	53
$2500 < Q \leq 2593$	85
$2593 < Q \leq 2778$	118
$2778 < Q \leq 3333$	150
$3333 < Q \leq 3704$	150/85*
$3704 < Q$	150

\* 85 mgd if the City of Richmond is diverting a base flow of 350 cfs in Haxall Canal

6. Water withdrawal monitoring and reporting activities shall comply with this section, with Part I.C, and with Part II. All records and information that result from the monitoring and reporting activities required by this permit, including any records of maintenance activities to the withdrawal system, shall be retained for the life of the permit. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or as requested by the Board.
7. The permittee shall monitor withdrawals from the James River at the stream gauges listed in Part I.F.4 a-d on a daily basis between the hours of 8:00 AM and 9:00 AM to determine the maximum amount of pumping allowed over the next 24 hours and to ensure that the withdrawals are in compliance with special condition Part I.F.5 of this permit.
8. For each day that water is withdrawn from the James River and pumped to Cobbs Creek Reservoir, the permittee shall report, the date, the provisional stream flow in cfs as measured at the following stream gages: USGS gage No. 02029000 (James River at Scottsville, Virginia), USGS gage No. 02030000 (Hardware River BL Briery Run near Scottsville, Virginia), USGS gage No. 02030500 (Slate River near Arvonnia, Virginia), and USGS gage No. 02034000 (Rivanna River at Palmyra, VA.), and the estimated stream flow at Cartersville in cfs as estimated in accordance with Part I.F.4, and the amount of water pumped to Cobbs Creek Reservoir. The daily pumping records shall be tabulated by month. A monitoring report shall be prepared and submitted by January 31<sup>st</sup> of each year documenting the daily withdrawals and streamflow and withdrawals in the previous calendar year.
9. With prior written approval from DEQ, the permittee may use USGS Gage No. 02035000 (James River at Cartersville, Virginia) to estimate flows at Cartersville if one or more of the gages identified in Part I F.4 is confirmed as malfunctioning by the USGS or DEQ. The permittee shall return to estimating flows in accordance with Part I.F.4 of this permit once the malfunctioning gage(s) is functioning correctly.
10. This permit authorizes storage at the Cobbs Creek Reservoir that results in the allocation of 47 million gallons per day (mgd) of new or expanded, total average daily surface water withdrawals by Henrico County and its regional partners. This allocation is based on the safe yield of the reservoir, as determined by the Board, under the operating rules specified in this permit. Thirty million gallons per day (30 mgd) of this allocation is

authorized to be withdrawn from the James River as specified in Virginia Water Protection Permit Number 88-0898. The remaining 17 mgd of this allocation may be authorized for withdrawal by either Henrico County or its regional partners through the issuance, reissuance, or modification of a Virginia Water Protection permit.

11. Any user who desires to withdrawal surface water from the Cobbs Creek Reservoir shall be required to apply for and receive a separate Virginia Water Protection permit and shall be required to receive written authorization from the permittee prior to withdrawing water from the reservoir.
12. The permittee shall report all authorized surface water withdrawals to the DEQ Office of Water Supply at P.O. Box 1105, Richmond, Virginia, 23218 by January 31<sup>st</sup> of the year following the year in which the withdrawals occurred. *Reporting surface water withdrawals in accordance with the conditions of this permit satisfies the reporting requirement for Water Withdrawal Reporting Regulation 9VAC25-200-10 et seq.* The annual monitoring report shall contain the following information: the permittee's name and address, the VWP permit number, the permittee's assigned facility identification number for reporting surface water withdrawals under 9VAC25-200-10 et. seq., the sources and locations of water withdrawal, the cumulative volume of water withdrawn each month of the calendar year, the largest single day withdrawal and the month in which it occurred, the method of withdrawal measurement, and any periods when voluntary or mandatory water conservation measures were implemented (mm/dd/yyyy to mm/dd/yyyy).

**G. Project Construction Monitoring and Submittals for Project Surface Water Impact Sites**

**Project Pre-Construction Monitoring and Submittals**

1. Prior to installation of any cofferdam, the permittee shall conduct surveys for freshwater mussels 5 meters upstream, 20 meters downstream, and 5 meters channelward of the project footprint in the James River. Surveys should be performed by a qualified biologist, preferably no more than six months prior to construction activities in the James River. The permittee shall coordinate with the Virginia Department of Game and Inland Fisheries to determine if the relocation of any threatened or endangered mussel species is required. No work in the James River shall commence until all required mussel surveys have been completed and any required mussel relocation has occurred. A copy of all mussel surveys conducted, including any data, measurements, photographs, and recommendations made, shall be submitted to DEQ within 60 days of completion.
2. Final construction plans for the project activities authorized by this permit shall be submitted 30 calendar days prior to initiating any land disturbance or construction in permitted impact areas. Construction activities shall not be initiated until DEQ has reviewed and commented on the plans, or until 30 calendar days have passed without DEQ comments being received by the permittee. If DEQ submits comments on the final plans, construction shall not proceed until comments are resolved to DEQ's satisfaction. Final construction plans shall include, at a minimum but not limited to, the plan for

preservation of woody structure within the reservoir pool, as described in Part I.C.21; and the buffer vegetation management plan, as described in Part I.C.22. Plan revision(s) in permitted areas shall be submitted to DEQ for approval immediately upon determination that a change is necessary. DEQ approval shall be required prior to implementing the revision(s).

3. At least ten calendar days prior to the initiation of any land disturbance or construction activities in permitted areas, the permittee shall submit written notification to DEQ, including a projected schedule for initiating and completing work at each permitted impact area.
4. The permittee shall conduct photographic monitoring of pre-construction conditions in permitted, temporary or permanent impact areas covered by this permit. The photos shall be of sufficient quantity to thoroughly document the environmental conditions at the permitted impact areas prior to disturbance.

Photos shall be submitted with the notification (Part I.G.3) to DEQ that land disturbing or construction activities are planned to begin.

5. Final wetlands and stream compensation plans (final plans) shall be prepared in accordance with the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10 et. seq.) in effect at the time of plan submittal, and shall be based on the most recent mitigation guidance posted on DEQ's wetlands web page.

The final plans shall be approved by the State Water Control Board (Board) *prior to any construction activity in permitted impact areas*. DEQ and the SWCB shall have 180 calendar days to review and either provide written comments on the final plans or approve the final plans. The final plans as approved by DEQ and the SWCB shall be an enforceable requirement of this permit. Any change to the approved final plans must be submitted to DEQ and the SWCB for approval prior to implementing the change.

- a. The final wetland compensation plan shall include complete information on all components of the conceptual compensatory mitigation plan, as detailed in the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10 et. seq.) in effect at the time of final plan submittal, including but not limited to, compensation amounts, ratios, wetland types, and locations. In addition, the plan shall include: a summary of the type and acreage of wetland impacts anticipated during the construction of the compensation site and the proposed compensation for these impacts; a site access plan; a monitoring plan, including the proposed success criteria, the monitoring goals, the monitoring schedule, the location of photo stations, monitoring wells, vegetation sampling points, and reference wetlands (if available), and the monitoring provisions contained in this permit; an abatement and control plan for undesirable plant species; an erosion and sedimentation control plan; a construction schedule; and the mechanism for protection in perpetuity of the compensation site(s), including all surface waters and buffer areas within its boundaries.

The mechanism for protection shall be in place within 120 days of final compensation plan approval. The mechanism for protection shall state that no activity will be performed on the property in any area designated as a compensation area, with the exception of maintenance or corrective action measures authorized by the Board. The mechanism of protection applies to ditching, land clearing, or discharge of dredge or fill material, unless these activities are specifically authorized by the Board through the issuance of a VWP individual or general permit, or waiver thereof. Such mechanism of protection shall contain the specific phrase "ditching, land clearing, or discharge of dredge or fill material" in the limitations placed on the use of these areas. The mechanism of protection, or an equivalent mechanism for government-owned lands, shall be recorded in the chain of title to the property, and proof of recordation shall be submitted to DEQ within 120 days of final compensation plan approval.

Hydrology analyses should include: For riverine or stream-driven systems, a water budget (for nontidal sites only) based on expected monthly inputs and outputs which will project water level elevations for a typical year, a dry year, and a wet year; For groundwater- and precipitation-driven sites in non-riverine systems, historic groundwater elevation data, if available, or the proposed location of groundwater monitoring wells to collect these data; and For overbank flood-driven systems, gaging station data and a floodplain analysis, including a minimum 10-year continuous simulation which will account for variability in inputs and outputs under varying conditions.

- b. The final stream compensation plan shall include complete information on all components of the conceptual compensatory mitigation plan, as detailed in the Virginia Water Protection Permit Program Regulation (9 VAC 25-210-10 et. seq.) in effect at the time of final plan submittal, including but not limited to, compensation amounts, credits and/or credit ratios, condition assessment types, and locations. In addition, the plan shall include: a summary of the type and linear feet of stream impacts anticipated during the construction of the compensation site and the proposed compensation for these impacts; a site access plan; an erosion and sedimentation control plan, if appropriate; an abatement and control plan for undesirable plant species; a monitoring plan, including the proposed success criteria, the monitoring goals, the monitoring schedule, and the location of photo stations, vegetation sampling points, survey points, bank pins, scour chains, and reference streams (if available), and the monitoring provisions contained in this permit; a plan view sketch depicting the pattern and all compensation measures being employed; a profile sketch; cross-sectional sketches of the proposed compensation stream; and the mechanism for protection in perpetuity of the compensation site(s), including all surface waters and buffer areas within its boundaries.

The mechanism for protection shall be in place within 120 days of final compensation plan approval. The mechanism for protection shall state that no activity will be performed on the property in any area designated as a compensation area, with the exception of maintenance or corrective action measures authorized by the Board. The

mechanism of protection applies to ditching, land clearing, or discharge of dredge or fill material, unless these activities are specifically authorized by the Board through the issuance of a VWP individual or general permit, or waiver thereof. Such mechanism of protection shall contain the specific phrase “ditching, land clearing, or discharge of dredge or fill material” in the limitations placed on the use of these areas. The mechanism of protection, or an equivalent mechanism for government-owned lands, shall be recorded in the chain of title to the property, and proof of recordation shall be submitted to DEQ within 120 days of final compensation plan approval.

- c. Any compensation plan proposing the purchase or use of mitigation banking credits shall include: (i) the name of the proposed mitigation bank and the HUC in which it is located; (ii) the number of credits proposed to be purchased or used; and (iii) certification from the bank owner of the availability of credits.
- d. Any compensation plan proposing to include contributions to an in-lieu fee fund shall include proof of the willingness of the entity to accept the donation and documentation of how the amount of the contribution was calculated.

#### **Monitoring and Submittals Required During Project Construction**

- 6. Monitoring of water quality parameters shall be conducted as described below during relocation of any flowing stream through a new channel. Corrective measures and additional monitoring may be required if Virginia Water Quality Standards, as detailed in the most recent version of Regulation 9 VAC 25-260-10 et. seq., are not met. The permittee shall report violations of Virginia Water Quality Standards to DEQ within 24 hours of monitoring. All monitoring data shall be submitted to DEQ within seven calendar days of the monitoring event.
  - a. One sampling station shall be located upstream of the relocated channel, and one sampling station shall be located immediately downstream of the relocated channel.
  - b. At the *upstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *before* opening a new channel, and every 30 minutes thereafter for at least *two* hours.
  - c. At the *downstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *after* opening a new channel, and every 30 minutes thereafter until the measurements indicate that the site has stabilized (a minimum of *three* hours).
- 7. Site inspections shall be conducted by the permittee or the permittee’s qualified designee at least **once every calendar month** during active construction within authorized surface water impact areas. All authorized permanent and temporary impact areas; all avoided surface waters, including wetlands, stream channels, and open water; within 50 feet of any land disturbing activity; and all on-site areas designated for permanent preservation must be inspected. The *VWP Construction Inspection Checklist* shall be completed in its

entirety for each monthly inspection and shall be kept on-site and made available for review by DEQ staff upon request during normal business hours.

8. The permittee shall notify DEQ within 24 hours of discovering impacts to surface waters (including wetlands) that are not authorized by this permit. The notification shall consist of the *VWP Construction Inspection Checklist* that was completed when the impacts were discovered, photographs, estimated acreage and/or linear footage of impacts, and a narrative description of the impacts.
9. The *VWP Permit Construction Status Update Form* enclosed with this permit shall be completed in June and December of every year during the term of this permit. The updates shall be submitted electronically or mailed to the Department of Environmental Quality-Office of Water Supply, P.O. Box 1105, Richmond, Virginia 23218 and must be received by DEQ **no later than January 10 and July 10 of every year**. The construction status update shall include reference to the VWP permit authorization number and one of the following statements for each authorized surface water impact location:
  - a. Construction activities not yet started;
  - b. Construction activities started;
  - c. Construction activities started but are currently inactive, or;
  - d. Construction activities complete.

#### **Project Post-Construction Monitoring and Submittals**

10. The permittee shall submit written notification within 30 calendar days after the completion of activities in each permitted impact area(s) authorized under this permit. Notification shall include the post-construction photos of disturbances in the particular permitted impact area(s), as described in Part I.G.11.
11. The permittee shall conduct photographic monitoring of sufficient quantity to thoroughly document that all construction activities were completed in permitted impact areas. The established, enumerated photo stations shall be used for photo monitoring. Each photograph taken shall be labeled with the photo station number, the permitted impact location, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and the date that activities were completed. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

For temporary disturbances to surface waters, the permittee shall conduct photographic monitoring immediately after restoration, then once annually in August or September for *two consecutive years*. If restoration is not completed by June 30<sup>th</sup> of a given year, the monitoring should not begin until August or September of the *following* year in order to allow one growing season to pass. If post-restoration conditions are not equivalent to

pre-construction conditions after two years (except for mature woody vegetation), DEQ may require corrective action and continued annual monitoring until the temporary impacts are restored.

For permanent disturbances, the permittee shall conduct photographic monitoring of all authorized, permanent-impact areas once at the time of completion of construction and stabilization of the area.

Photos shall be submitted with the post-construction notification detailed in Part I.G.10.

12. Final As-Built plans shall be submitted to DEQ prior to filling the reservoir for all structures completed to that date. These may include, but are not limited to, the dams, access roads, intake structures, water transfer utility lines, pump station, etc. Final As-Built plans for the remaining portions of the project authorized by this permit, such as, but not limited to relocation of utility lines, shall be submitted to DEQ within 90 calendar days after the completion of construction. A licensed land surveyor or a licensed professional engineer shall certify the plans. The plans shall include a narrative comparing the As-Built plans with the design plans. DEQ shall have 30 calendar days to review the plans and provide comments to the permittee.

#### **H. *Compensatory Mitigation***

1. All temporarily disturbed wetland areas shall be restored to preconstruction conditions within 30 calendar days of completing work in the areas, which shall include re-establishing pre-construction contours, and planting or seeding with appropriate wetland vegetation according to cover type (emergent, scrub/shrub, or forested), except for invasive species identified on the Department of Conservation and Recreation Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed wetlands for a minimum of two years after the area is restored.
2. All temporarily impacted streams and stream banks shall be restored to their original elevations and contours within 30 calendar days following the construction at that stream segment, and the banks shall be seeded or planted with the same vegetative cover type originally present along the banks, including supplemental erosion control grasses if necessary but not including invasive species identified on the Department of Conservation and Recreation Invasive Alien Plant Species of Virginia list. The permittee shall take all appropriate measures to promote and maintain the revegetation of temporarily disturbed streams and stream banks for a minimum of two years after the area is restored.
3. Compensation for the permanent conversion of palustrine forested wetlands to palustrine scrub-shrub or palustrine emergent wetlands for the installation of underground utility lines associated with the James River intake or for the relocation of existing underground utility lines shall be provided as detailed in the final wetlands compensation plan approved by the Board.

4. Compensation for any additional permanent impacts incurred from the final Cobbs Creek Dam and West Saddle Dam designs shall be provided at appropriate ratios or credits, as detailed in the final wetlands and stream compensation plans approved by the Board.
5. Final compensation for wetland impacts shall be based on the conceptual compensation plans submitted as part of the complete application for this project. The permittee shall provide off-site compensation for permanent wetland impacts at the Swift Island compensation site in Buckingham County, Virginia, as detailed in the final wetland compensation plan approved by the Board. Any surplus wetland acreage created at the Swift Island site may be used for compensatory mitigation resulting from activities or unexpected circumstances associated with the permitted project or with other utility projects by Henrico County, provided that the surplus is deemed by DEQ as having met the required criteria for wetland creation and that DEQ has approved the use of such surplus compensation. The compensation site shall be preserved in perpetuity, as described in the final wetlands compensation plan and Part I.G.5.
6. Final compensation for stream impacts shall be based on the conceptual compensation plans submitted as part of the complete application for this project. The permittee shall provide off-site compensation for permanent stream impacts through a combination of stream buffer restoration or enhancement and preservation at the Swift Island Compensation Site; stream buffer preservation at the Cumberland State Forest; purchase of mitigation bank credits; or purchase of in-lieu fee fund credits, as detailed in the final stream compensation plan approved by the Board. Proof of banking or in-lieu fee fund credit purchase(s) shall be submitted to DEQ prior to initiating construction in authorized areas. The compensation areas shall be preserved in perpetuity, as described in the final stream compensation plan and Part I.G.5.
7. Any change to the compensation options noted in Part I.H.3 through Part I.H.6 above shall be approved by the Board prior to initiating any construction activities in surface waters.
8. The permittee shall be responsible for meeting all of the components of the compensatory mitigation requirements associated with this permit. This responsibility can only be transferred if and when the permit is transferred to another party and then only to the new permit recipient.
9. Compensation site construction shall commence *within 180 calendar days (approximately six months) of beginning project construction activities in any permitted impact area.* Work in the permitted impact areas shall cease until compensation site construction begins, unless otherwise authorized to continue by DEQ. Compensation site construction includes stabilization of an existing stream reach at the Swift Island Compensation Site.

10. All vegetation removal for control purposes shall be done by manual means, unless authorized by DEQ in advance. Herbicides or algicides shall not be used in or immediately adjacent to compensation areas without prior authorization by DEQ.
11. Vegetation shall be native species common to the area and shall be suitable for growth in local wetland and/or riparian conditions. Seeds used for compensation site activities shall conform to the Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et. seq.). Planting of woody plants shall occur when vegetation is normally dormant unless otherwise approved in the final compensation plan.
12. Point sources of stormwater runoff shall be prohibited from entering any compensation site prior to treatment by appropriate best management practices (BMPs) that are designed, installed, and maintained as described in the Virginia Erosion and Sediment Control Handbook (Third Edition, 1992, or the most recent version in effect at the time of construction) and the Virginia Stormwater Management Handbook (First Edition, 1999, or the most recent version in effect at the time of construction), or for any compensation site within state forest boundaries, the Forestry Best Management Practices for Water Quality in Virginia Technical Guide (Fourth Edition, July 2002). Appropriate best management practices may include sediment traps, grassed waterways, vegetated filter strips, debris screens, oil and grease separators, and forebays. Installation of alternative practices not described in these references shall be submitted to DEQ for approval prior to beginning construction.

I. *Compensation Site Construction Tasks, Monitoring, and Submittals*

**Pre-Construction Tasks, Monitoring, and Submittals for the Compensation Sites**

1. At least ten calendar days prior to the initiation of any land disturbance or construction activities at the Swift Island Compensation Site, the permittee shall submit written notification to DEQ, including a projected schedule for initiating and completing work at each wetland cell, at the stream stabilization reach, and at each stream buffer restoration or enhancement reach, and the pre-construction photographs described in Part I.I.4.
2. For compensation sites involving land disturbance, a site stabilization plan shall be implemented prior to compensatory mitigation construction activities.
3. All non-impacted wetlands, streams, open water, and designated buffers that are located within the compensation site limits, or that are located within fifty feet of any compensation site construction activities, shall be clearly marked or flagged for the life of the construction activity within that area. *The permittee shall notify all contractors and subcontractors that no activities are to occur in these marked areas.*
4. The permittee shall conduct photographic documentation of pre-construction conditions in each cell of wetlands to be created, in each open water area to be created, in each reach of stream buffer restoration or enhancement, and at the stream stabilization reach at the Swift Island Compensation Site. The photos shall be of sufficient quantity to thoroughly

document the environmental conditions prior to disturbance. Photographic documentation shall be conducted by the following method:

Enumerated photo stations shall be established in each wetland cell, open water area, and stream buffer restoration or enhancement reach, as well as at the stream stabilization reach at the Swift Island Compensation Site. These locations will be consistent for the duration of compensation site construction activities. Photo stations may be established via water craft or temporary floating structures. Photos will be taken from the same directional orientation during each monitoring event. Each photograph taken shall be labeled with the photo station number, the cell number and wetland type, the stream reach identification number or name, the photograph orientation, the date and time of the photograph, and the name of the person taking the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

For preservation areas only at the Swift Island Compensation Site, representative photos shall be taken once while marking the non-impact areas noted in Part I.I.3, or once prior to commencing any construction activities. Each photograph taken shall be labeled with the stream reach identification number or name, the photograph orientation, the date and time of the photograph, and the name of the person taking the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs. In lieu of individual photos in large preservation reaches, an aerial photograph shall be submitted provided that the photo contains sufficient detail to identify pre-construction conditions. Each aerial photograph shall be labeled with the stream reach identification numbers or names, the photograph elevation, the date and time of the photograph, and the name of the person or firm taking the photograph.

Photos shall be submitted with the notification (Part I.I.1) to DEQ that land disturbing or construction activities are planned to begin.

### **Short-Term Monitoring and Submittals during Compensation Site Construction**

5. Monitoring of water quality parameters shall be conducted during relocation of any flowing stream through a new channel. Corrective measures and additional monitoring may be required if water quality standards are not met. The permittee shall report violations of water quality standards to DEQ within 24 hours of monitoring. All monitoring data shall be submitted to DEQ within seven calendar days of the monitoring event. The method for monitoring water quality parameters shall be as follows:
  - a. One sampling station shall be located upstream of the relocated channel, and one sampling station shall be located immediately downstream of the relocated channel.
  - b. At the *upstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *before* opening a new channel, and every 30 minutes thereafter for at least *two* hours.

- c. At the *downstream* sampling station, temperature, pH, and dissolved oxygen (D.O.) measurements shall be taken immediately *after* opening a new channel, and every 30 minutes thereafter until the measurements indicate that the site has stabilized (minimum of *three* hours).
6. The permittee shall conduct photographic monitoring of sufficient quantity and frequency to thoroughly document all construction activities in each wetland cell, open water creation area, in each reach of stream buffer restoration or enhancement, and at the stream stabilization reach at the Swift Island Compensation Site, such as, but not limited to, clearing, grading, installation of water control structures, erosion and sediment control structures, access roads, stream relocations, etc. Photos shall also document any non-compliant events or problems encountered during the construction activities. No photos are necessary in preservation-only areas. For work being conducted in phases, or only in certain areas at the same time, monitoring may begin upon initiating work in those specific areas.

The established, enumerated photo stations shall be used for photo monitoring. Photos will be taken from the same directional orientation during each monitoring event. Each photograph taken shall be labeled with the photo station number, the cell number and wetland type, the stream reach identification number or name, the photograph orientation, the date and time of the photograph, the name of the person taking the photograph, and a brief description of the activities being conducted at the time of the photograph. If necessary, this information may be provided on (a) separate sheet(s) of paper attached to the photographs.

Photos shall be submitted as part of the compensation site construction monitoring reports detailed in Part I.I.7.

7. Compensation site construction monitoring reports shall be submitted to DEQ monthly, due by the 15<sup>th</sup> of the following month (for example, the report for January is due by February 15<sup>th</sup>). The reports shall include the following, as applicable:
  - a. A written narrative including a description of the major work items performed, when those items were initiated, when those items are expected to be completed, and the details of any non-compliant events or problems that were encountered.
  - b. A written summary of any corrective actions taken and any subsequent notifications to DEQ regarding non-compliant events or problems encountered during construction activities.
  - c. A summary of anticipated work to be completed during the next monitoring period.
  - d. A labeled site map showing where work activities occurred during the monitoring period and the photo stations used to document activities.
  - e. The photos taken during the monitoring period.

8. After each cell of the wetland compensation site reaches final grades, but prior to planting the cell, the permittee shall submit a post-grading survey to DEQ. The survey shall be conducted by a licensed land surveyor and certified by a licensed surveyor, licensed professional engineer, or licensed landscape architect. The survey shall document spot elevations (in feet above mean sea level) that are within +/- 0.2 feet (1.2 inches) of the elevations indicated in the site construction grading plan that was approved as part of the final compensation plan. Post-grading elevations for the compensation site shall be sufficient to ensure that wetland hydrology will be achieved on the site to support the goals and objectives of the approved final compensation plan. DEQ shall have 30 calendar days to review the survey and provide comments to the permittee.

#### **Submittals after Compensation Site Construction**

9. The permittee shall submit written notification within 30 calendar days after the completion of activities in each wetland cell, each open water creation area, and each stream buffer restoration or enhancement reach at the Swift Island Compensation Site. The notification may be included with monthly compensation site construction monitoring reports or may be submitted separately. In either case, notification shall include the post-construction photos of the wetland cell, open water area, or stream reach, using the established, enumerated photo stations.
10. Final As-Built plans of the entire Swift Island Compensation Site shall be submitted to DEQ within 90 calendar days of completing construction. A licensed land surveyor or a licensed professional engineer shall certify the plans. The plans shall include a narrative comparing the As-Built plans with the design plans, focusing on any necessary deviations or unexpected conditions encountered and how these were addressed. DEQ shall have 30 calendar days to review the plans and provide comments to the permittee.

#### **Long-Term Monitoring for Success after Compensation Site Construction and in Preservation Areas**

11. Success monitoring at all compensation sites shall be conducted in accordance with the current Virginia Water Protection Permit Program Regulation 9 VAC 25-210-10 et. seq. in effect at the time that monitoring begins, with the most recent mitigation guidance found on DEQ's wetlands web page, with the approved final compensatory mitigation plans, and with this permit.
12. Success monitoring at constructed, enhanced, or restored sites shall be conducted on the frequency and duration stipulated in the approved final compensation plans. Success monitoring shall begin at the first full growing season (monitoring year one) following compensation site construction. If construction ends before the beginning of the growing season in a particular year, then *that* year shall be considered as monitoring year one for purposes of success monitoring. If construction ends during or after the growing season in a particular year, the *following* growing season shall be considered as monitoring year one for purposes of success monitoring. The growing season for the area in which the

compensation is located is defined by the local United States Department of Agriculture, Natural Resources Conservation Service or Soil Conservation Service office.

13. If all success criteria have not been met by November 30<sup>th</sup> of the last monitoring year specified in the approved final compensation plans, or if visual observations conclude that the site has not met the overall restoration goals, corrective actions shall be implemented in accordance with the DEQ-approved corrective action plan. Annual monitoring shall continue until two sequential, annual reports indicate that all criteria have been successfully satisfied (e.g., that corrective actions were successful) and the compensation site has met the overall restoration goals. The permittee shall be solely responsible for ensuring that all necessary corrective actions are implemented so that the compensation site meets the success criteria, as detailed in the final compensation plans. Should any significant changes to the compensation site be necessary, the first full growing season after the changes are complete shall become the new monitoring year one. Monitoring shall continue in accordance with the DEQ-approved corrective action plan.
14. Photographic documentation during success monitoring shall be conducted in accordance with the final compensation plans approved by the Board.
15. Hydrology monitoring at the wetland compensation site shall be conducted in accordance with the final compensation plans approved by the Board.
16. Wetland vegetation monitoring shall be conducted in accordance with the final compensation plans approved by the Board. Undesirable plant species shall be identified and controlled as described in the monitoring and control plan for undesirable plant species, such that they are not dominant species or do not change the desired community structure.
17. Monitoring for the presence of hydric soils or soils under hydric conditions shall be conducted in accordance with the final compensation plans approved by the Board.
18. Wildlife data collection shall be conducted in accordance with the final compensation plans approved by the Board.
19. Monitoring of all preserved stream buffer areas at the Swift Island Compensation Site for unauthorized encroachment and overall health shall be conducted in accordance with the final compensation plans approved by the Board.
20. All preserved stream buffer areas provided as compensation in the Cumberland State Forest shall be monitored by aerial photography once every five years during the month of April for the effective term of this permit, beginning upon approval of the final stream compensation plan by the Board. Aerial photographs shall be of sufficient number to capture all preservation areas and shall be of sufficient scale and elevation to discern changes in vegetation density and coverage in the preservation areas.

### **Submittals for Success Monitoring at the Compensation Sites**

21. Compensation site monitoring reports shall be submitted by December 31<sup>st</sup> of the years in which a monitoring is required, including the final monitoring year, as identified in the approved final compensation plans. The reports shall include the following, at a minimum:
- a. A general description of the compensation site including a site location map identifying wetland, open water, and stream buffer restoration or enhancement areas, photo stations, vegetative and soil monitoring stations, monitoring wells (if applicable), wetland zones;
  - b. Summary of activities completed during the monitoring year;
  - c. Description of monitoring methods;
  - d. An analysis of all hydrology information, including monitoring well data, precipitation data, and gauging data from streams, or other open water areas, as detailed in the final compensation plans;
  - e. Evaluation of hydric soils or soils under hydric conditions;
  - f. An analysis of all vegetative community information, including woody and herbaceous species, both planted and volunteers, set forth in the final compensation plans;
  - g. Discussion of wildlife or signs of wildlife observed at the compensation sites;
  - h. Discussion of macroinvertebrate sampling data;
  - i. Discussion of observed success of livestock access limiting measures;
  - j. Discussion of alterations, maintenance, and/or major storm events resulting in significant change in the site design;
  - k. Comparison of site conditions from the previous monitoring year, or comparison of site conditions to the reference site;
  - l. A calculation of the acreage of each wetland type based upon that monitoring year's soils, vegetation, and hydrology data, shown on the site location map;
  - m. A corrective action plan, if necessary, which includes any proposed actions or maintenance activities, a schedule, and a monitoring plan (e.g., the control of undesirable species, the repair of a damaged water control device, the replacement of damaged, planted vegetation, etc.); and

n. Properly labeled photographs.

23. Within 90 calendar days of the final monitoring event in the final monitoring year, a wetland boundary survey shall be conducted by a licensed land surveyor or a licensed professional engineer, and shall be based upon the results of monitoring data for soils, vegetation, and hydrology. A calculation shall be made of the total acreage of each wetland type. The boundary and acreage per wetland type shall be shown on the most recent version of the compensation site design plan sheet(s). The so-noted compensation design plan sheets shall be submitted to DEQ as part of the final monitoring report or as a separate document.
24. Aerial photographs of preservation areas taken in accordance with Part I.I.20 shall be submitted to DEQ within 30 days of the flight date. Each aerial photograph shall be labeled with the stream reach identification numbers or names, the photograph elevation, the date and time of the photograph, and the name of the person or firm taking the photograph.

**A. Duty to Comply**

The permittee shall comply with all conditions of the VWP permit. Nothing in the VWP permit regulations shall be construed to relieve the permittee of the duty to comply with all applicable federal and state statutes, regulations and prohibitions. Any VWP permit violation is a violation of the law, and is grounds for enforcement action, VWP permit termination, revocation, modification, or denial of an application for a VWP permit extension or reissuance.

**B. Duty to Cease or Confine Activity**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the activity for which a VWP permit has been granted in order to maintain compliance with the conditions of the VWP permit.

**C. Duty to Mitigate**

The permittee shall take all reasonable steps to minimize or prevent any impacts in violation of the permit which may have a reasonable likelihood of adversely affecting human health or the environment.

**D. VWP Permit Action**

1. A VWP permit may be modified, revoked and reissued, or terminated as set forth in 9 VAC 25-210 et seq.
2. If a permittee files a request for VWP permit modification, revocation, or termination, or files a notification of planned changes, or anticipated noncompliance, the VWP permit terms and conditions shall remain effective until the request is acted upon by the board. This provision shall not be used to extend the expiration date of the effective VWP permit. If the permittee wishes to continue an activity regulated by the VWP permit after the expiration date of the VWP permit, the permittee must apply for and obtain a new VWP permit or comply with the provisions of 9 VAC 25-210-185 (VWP Permit Extension).
3. VWP permits may be modified, revoked and reissued or terminated upon the request of the permittee or other person at the board's discretion, or upon board initiative to reflect the requirements of any changes in the statutes or regulations, or as a result of VWP permit noncompliance as indicated in the Duty to Comply subsection above, or for other reasons listed in 9 VAC 25-210-180 (Rules for Modification, Revocation and Reissuance, and Termination of VWP permits).

### **E. Inspection and Entry**

Upon presentation of credentials, any duly authorized agent of the board may, at reasonable times and under reasonable circumstances:

1. Enter upon any permittee's property, public or private, and have access to, inspect and copy any records that must be kept as part of the VWP permit conditions;
2. Inspect any facilities, operations or practices (including monitoring and control equipment) regulated or required under the VWP permit; and
3. Sample or monitor any substance, parameter or activity for the purpose of ensuring compliance with the conditions of the VWP permit or as otherwise authorized by law.

### **F. Duty to Provide Information**

1. The permittee shall furnish to the board any information which the board may request to determine whether cause exists for modifying, revoking, reissuing or terminating the VWP permit, or to determine compliance with the VWP permit. The permittee shall also furnish to the board, upon request, copies of records required to be kept by the permittee.
2. Plans, specifications, maps, conceptual reports and other relevant information shall be submitted as required by the board prior to commencing construction.

### **G. Monitoring and Records Requirements**

1. Monitoring of parameters, other than pollutants, shall be conducted according to approved analytical methods as specified in the VWP permit. Analysis of pollutants will be conducted according to 40 CFR Part 136 (2000), Guidelines Establishing Test Procedures for the Analysis of Pollutants.
2. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
3. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart or electronic recordings for continuous monitoring instrumentation, copies of all reports required by the VWP permit, and records of all data used to complete the application for the VWP permit, for a period of at least three years from the date of the expiration of a granted VWP permit. This period may be extended by request of the board at any time.
4. Records of monitoring information shall include:
  - a. The date, exact place and time of sampling or measurements;

- b. The name of the individuals who performed the sampling or measurements;
- c. The date and time the analyses were performed;
- d. The name of the individuals who performed the analyses;
- e. The analytical techniques or methods supporting the information such as observations, readings, calculations and bench data used;
- f. The results of such analyses; and
- g. Chain of custody documentation.

#### **H. Transferability**

This VWP permit may be transferred to a new permittee only by modification to reflect the transfer, by revoking and reissuing the permit, or by automatic transfer. Automatic transfer to a new permittee shall occur if:

1. The current permittee notifies the board within 30 days of the proposed transfer of the title to the facility or property;
2. The notice to the board includes a written agreement between the existing and proposed permittee containing a specific date of transfer of VWP permit responsibility, coverage and liability to the new permittee, or that the existing permittee will retain such responsibility, coverage, or liability, including liability for compliance with the requirements of any enforcement activities related to the permitted activity; and
3. The board does not within the 30-day time period notify the existing permittee and the new permittee of its intent to modify or revoke and reissue the VWP permit.

#### **I. Property rights**

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize injury to private property or any invasion of personal rights or any infringement of federal, state or local law or regulation.

#### **J. Reopener**

Each VWP permit shall have a condition allowing the reopening of the VWP permit for the purpose of modifying the conditions of the VWP permit to meet new regulatory standards duly adopted by the board. Cause for reopening VWP permits includes, but is not limited to when the circumstances on which the previous VWP permit was based have materially and substantially changed, or special studies conducted by the board or the permittee show material and

substantial change, since the time the VWP permit was issued and thereby constitute cause for VWP permit modification or revocation and reissuance.

#### **K. Compliance with State and Federal Law**

Compliance with this VWP permit constitutes compliance with the VWP permit requirements of the State Water Control Law. Nothing in this VWP permit shall be construed to preclude the institution of any legal action under or relieve the permittee from any responsibilities, liabilities, or other penalties established pursuant to any other state law or regulation or under the authority preserved by § 510 of the Clean Water Act.

#### **L. Severability**

The provisions of this VWP permit are severable.

#### **M. Permit Modification**

A VWP permit may be modified, but not revoked and reissued except when the permittee agrees or requests, when any of the following developments occur:

1. When additions or alterations have been made to the affected facility or activity which require the application of VWP permit conditions that differ from those of the existing VWP permit or are absent from it;
2. When new information becomes available about the operation or activity covered by the VWP permit which was not available at VWP permit issuance and would have justified the application of different VWP permit conditions at the time of VWP permit issuance;
3. When a change is made in the promulgated standards or regulations on which the VWP permit was based;
4. When it becomes necessary to change final dates in schedules due to circumstances over which the permittee has little or no control such as acts of God, materials shortages, etc. However, in no case may a compliance schedule be modified to extend beyond any applicable statutory deadline of the Act;
5. When changes occur which are subject to "reopener clauses" in the VWP permit; or
6. When the board determines that minimum instream flow levels resulting from the permittee's withdrawal of water are detrimental to the instream beneficial use and the withdrawal of water should be subject to further net limitations or when an area is declared a Surface Water Management Area pursuant to §§ 62.1-242 through 62.1-253 of the Code of Virginia, during the term of the VWP permit.

## **N. Permit Termination**

After notice and opportunity for a formal hearing pursuant to Procedural Rule No. 1 (9 VAC 25-230-100) a VWP permit can be terminated for cause. Causes for termination are as follows:

1. Noncompliance by the permittee with any condition of the VWP permit;
2. The permittee's failure in the application or during the VWP permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time;
3. The permittee's violation of a special or judicial order;
4. A determination by the board that the permitted activity endangers human health or the environment and can be regulated to acceptable levels by VWP permit modification or termination;
5. A change in any condition that requires either a temporary or permanent reduction or elimination of any activity controlled by the VWP permit; and
6. A determination that the permitted activity has ceased and that the compensatory mitigation for unavoidable adverse impacts has been successfully completed.

## **O. Civil and Criminal Liability**

Nothing in this VWP permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

## **P. Oil and Hazardous Substance Liability**

Nothing in this VWP permit shall be construed to preclude the institution of legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under § 311 of the Clean Water Act or §§ 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

## **Q. Unauthorized Discharge of Pollutants**

Except in compliance with this VWP permit, it shall be unlawful for the permittee to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances;
2. Excavate in a wetland;

3. Otherwise alter the physical, chemical, or biological properties of state waters and make them detrimental to the public health, to animal or aquatic life, to the uses of such waters for domestic or industrial consumption, for recreation, or for other uses;
4. On or after October 1, 2001 conduct the following activities in a wetland:
  - a. New activities to cause draining that significantly alters or degrades existing wetland acreage or functions;
  - b. Filling or dumping;
  - c. Permanent flooding or impounding;
  - d. New activities that cause significant alteration or degradation of existing wetland acreage or functions.



## VWP PERMIT CONSTRUCTION STATUS UPDATE FORM

Date (check one):

☐ June \_\_\_\_, \_\_\_\_

☐ December \_\_\_\_, \_\_\_\_

VWP Permit No: \_\_\_\_\_

Project Name: \_\_\_\_\_

Status within each authorized surface water impact location: (check one of the following status options for each impact number/location. Attach additional sheet(s) if needed.)

Impact number	Construction activities started	Construction activities not started	Construction activities started but currently not active	Construction activities complete

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Authorized Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Phone: \_\_\_\_\_

Date: \_\_\_\_\_ Email: \_\_\_\_\_

SEND TO: [anthony.cario@deq.virginia.gov](mailto:anthony.cario@deq.virginia.gov) or VA DEQ, Office of Water Supply (Attn: Anthony Cario), P.O. Box 1105, Richmond, VA 23218

Impact Construction Status Table Continued (if needed)

[illegible]



## MONTHLY VWP PERMIT INSPECTION CHECKLIST

An inspection of all permitted impact areas, avoided waters and wetlands, and permanently preserved waters, wetlands and upland areas must be conducted at least once every month during active construction activities.  
Maintain this record on-site and available for inspection by DEQ staff.

<b>Project Name</b>		<b>VWP Permit #</b>		<b>Inspection Date</b>	
<b>Inspector Name &amp; Affiliation</b>		<b>Phone # &amp; Email Address</b>			
<p style="text-align: center;"><b>Based on my inspection, to the best of my knowledge this project ( ____ is in compliance / ____ is not in compliance) with the VWP Permit.</b></p>					
<p>I certify that the information contained in this report is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</p>					
<p>_____ Signature of Inspector</p>			<p>_____ Date</p>		
<b>REVIEWED DURING SITE INSPECTION</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Notes &amp; Corrective Action Taken / Date Completed (use back of page if necessary)</b>	
Unauthorized impacts to surface waters, including wetlands, or upland preservation areas <b>have occurred</b> . <i>(This includes sedimentation impacts due to inadequate or failed erosion controls.)</i>	<input type="checkbox"/>	<input type="checkbox"/>			
Non-impacted wetlands, streams and preservations areas within 50 feet of construction are clearly marked to prevent unpermitted impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Temporary impacts are being restored to original contours, stabilized, and allowed to re-establish with wetland vegetation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Construction activities are <b>not</b> substantially disrupting aquatic life movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
E&S controls are present, properly maintained, and functioning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
In-stream work is being performed in the dry with the appropriate use of cofferdams, sheetpiling, etc., to minimize stream bottom disturbance and turbidity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Pipes and/or culverts for road crossings are countersunk to provide for the re-establishment of low flow fish passage and/or a natural stream bottom.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Time-of-year restrictions regarding impacts to surface waters are being adhered to.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Water quality monitoring is being conducted during stream impacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Streams and wetlands are free from any sheen or discoloration that may indicate a spill of oil, lubricants, concrete or other pollutants. **	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Heavy equipment is placed on mats or geotextile fabric when working in wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Exposed slopes/stream banks are stabilized immediately upon completion of work in each impact area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

\* If unauthorized impacts have occurred, you **must** email or fax a copy of this report to DEQ within 24 hours of discovery.  
Email: Anthony.cario@deq.virginia.gov or Fax: 804-698-4302

\*\* Any fish kills, or spills of fuels or oils must be reported **immediately upon discovery** to DEQ at 804-527-5020. If outside of normal business hours, contact Virginia Dept. of Emergency Management at 1-800-468-8892 or the National Response Center at 1-800-424-8802.

### Notes

*Please note that the permit contains additional construction conditions other than those listed above. The permittee is responsible for compliance with all conditions in the permit. Problems or concerns associated with these other conditions should be noted below.*